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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/606,367 06/28/00 CHEN

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EXAMINER

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ART UNIT

PAPER NUMBER

2816

DATE MAILED:

02/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

| | | |
|------------------------------|-------------------------|------------------|
| Office Action Summary | Application N . | Applicant(s) |
| | 09/606,367 | CHEN ET AL. |
| | Examin r Hiep Nguyen | Art Unit 2816 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) Responsive to communication(s) filed on 28 June 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7 and 10-24 is/are rejected.
- 7) Claim(s) 8 and 9 is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) All b) Some * c) None of the CERTIFIED copies of the priority documents have been:
1. received.
2. received in Application No. (Series Code / Serial Number) _____.
3. received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) Notice of References Cited (PTO-892)
- 15) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 17) Interview Summary (PTO-413) Paper No(s) _____.
- 18) Notice of Informal Patent Application (PTO-152)
- 19) Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 5, the recitation " a first and a second inverter...and an inverted output terminal of said p-type sense amp." on lines 2-6 is indefinite because it is misdescriptive.

According to figure 5, the first inverter is (540,550) and the second inverter is (560,570) each having a pull-up and a pull down terminal. The "first inverter" itself is not an inverter as claimed unless it is combined with the inverter (520). The same is true for the second inverter.

Regarding claims 13-16, the recitation " comprises " on line 1 of claims 13 and "comprising" on line 4 of claim 14 are indefinite because it is not clear how a voltage can comprise approximately ground or a supply voltage. The same is true for claims 15 and 16.

Claim 6 is indefinite because it depends on the rejected base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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Claims 1-3, 5-7 and 11-16 are rejected under 35 U.S.C 102(e) as being anticipated by Takahashi (US Pat. 6,037,824).

Regarding claims 1 and 3, figure 3 of Takahashi shows a circuit comprising: a differential sense circuit (23); a latch (24); the differential sense circuit and the latch being coupled so as to form a differential sense latch such that, in operation, an electronic signal stored in the latch is retained for at least one clock cycle (clock CLK).

Regarding claim 2, figure 7 of Takahashi shows that the differential sense circuit is coupled to said latch in a push-pull configuration.

Regarding claims 5 and 6, insofar as understood, figure 7 shows a differential sense circuit comprising: a first and third inverters (IN3, the combination of the first and third inverters), a second and a fourth inverters (IN4, the combination of the second and fourth inverters). The loads (IN3, NA2 and IN4, NA3) applied to the sense amplifier are identical thus they are equivalent loads.

Regarding claim 7, figure 7 shows a sense amp comprising an n-type sense amp (N31, N32).

Regarding claims 11 and 12, figure 7 of Takahashi (824) shows a method for storing electronic signals produced by a differential circuit comprising: pre-charging the differential circuit (210); evaluating said differential circuit; sensing differential output signals via a differential sense circuit (231); and storing an electronic signal corresponding to said differential output signal via latch circuit (233).

Regarding claims 13-16, figure 7 of Takahashi (824) shows a method for storing electronic signals produced by a differential circuit comprising: applying clock (iclh0) after pre-charging to bring the differential output terminal (the drain of N31 to a power supply voltage Vdd) and applying clock (iclk0) to bring the differential output terminal (the source of N32 to a ground voltage).

Claims 10, 17, 18-24 are rejected under 35 U.S.C 102(e) as being anticipated by Takahashi (US Pat. 5,982,689).

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According to claim 10, figure 7 shows comprising differential circuit comprising a differential domino circuit (M31, M11, M41, M21), the differential domino circuit and the differential sense latch (CELL) being coupled such that, in operation, differential output signals present on differential output terminals of the differential domino circuit cause a corresponding electronic signal to be stored in the differential sense latch (CELL).

According to claims 17, 18, 19 and 20, figure 1 of Takahashi (689) shows an integrated circuit (IC) comprising: a plurality of datapaths at least one of said datapaths comprising: a differential circuit (not shown, with outputs D and DB) and a differential sense latch (CELL), wherein the differential sense latch comprises a differential sense circuit and a jam-latch coupled such that, in operation, an electronic signal based, at least in part, on differential output terminals of said differential circuit is stored in said jam-latch.

Regarding claims 21-24, the limitations "a processor", "a microprocessor", "a network processor and "a digital processor" are merely intended uses. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ2d 1647 (1987). Therefore, this limitation has not been given patentable weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Pat. 6,037,824).

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Regarding claim 4, figure 3 of Takahashi includes all the limitations of the present invention except for the limitation that the sense amplifier comprises a p-type sense amplifier. However, it is well known the art that the n-type or the p-type sense amplifier is used depending on the selection of supply voltages to make them conductive. Therefore, it would have been obvious to a person skilled in the art at the time of the invention was made to use the p-type sense amplifier for the "low level" input signal.

Allowable Subject Matter

Claims 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-9 are objected to because the prior art of record fails to teach or fairly suggest a differential sense amplifier comprising a first and second inverters having stacked n-devices as called for in claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Hiep Nguyen whose telephone number is (703) 305-0127. The examiner can normally be reached on Monday to Friday from 7:30 A.M. to 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7725.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Hiep Nguyen

Examiner

02-16-2001

TUANT.LAM
PRIMARY EXAMINER